UNITED STATES PATENT AND TRADEMARK OFFICE

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10/662,087	09/12/2003	Liem Gioi Tran	SVL920030083US1/IBMP029	8862

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EXAMINER
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ART UNIT	PAPER NUMBER
2168	

NOTIFICATION DATE	DELIVERY MODE
05/30/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _15 February 2008_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1,3-8,10-15 and 17-20_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1,3-8,10-15,17-20_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   This Office Action is regarding Applicant's response filed 15 February 2008 to a prior Office action. Claims 1, 3 – 8, 10 – 15 and 17 – 20 are pending. Claims 2, 9 and 16 are canceled. Claims 1, 3, 8, 10, 15 and 17 are amended.

2.   A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed 15 February 2008 in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 28 January 2008 has been entered.

3.   This Office Action is the **Third Action, Non-Final Rejection**.

Response to Arguments

35 USC § 101

4.   Applicant's arguments (page 5) and amendments, filed 28 January 2008, regarding the rejection under 35 USC § 101 of claims 15 – 20 have been fully considered and are persuasive. For these reasons, the rejection under 35 USC § 101 of claims 15 – 20 is **withdrawn**.

35 USC § 103(a)

5.   Applicant's arguments (page 5 – 7) and amendments, filed 28 January 2008,

regarding the rejection under 35 USC § 103(a) of claims 1 – 20 have been fully

considered and are persuasive.

Applicant argues that Zeller does not show any datatype caching and does not

show any replacing of tokens with cast functions. The Examiner agrees that Zeller does

not show the replacement of tokens with a cast function. However, Zeller does teach

replacement of sub-queries. Each of the SQL commands (i.e. SELECT, CREATE

TABLE, DROP TABLE, and so forth) can be referred as "tokens". Therefore, at

minimum, Zeller teaches the replacement of tokens with SQL statements. While the

Examiner believes that determination of datatypes of SQL statements is either taught by

Zeller or well known in art, a more explicit recitation of datatype determination and

associated cast functions can be found in Kaneko et al (US Patent 6,480,833). Kaneko

et al discusses overloading of casting function and determinations of datatypes of input

variables as well as the entire SQL statement. "Overloading a function" is a process by

which on determination of the number and datatype of variables in calling a function, a

particular function is selected to be executed. A determination of datatype must occur

in order for the correct function to be selected (See Figures 9, 14 for selecting of

appropriate function based on datatype).

As for Applicant's arguments regarding the combination of Zeller et al. in view of

SQL-92, the Examiner notes that in col 2, lines 65 - 67 and in col 3, line 1, Zeller et al.

"incorporates by reference" the entire SQL-92 document. Thus, Zeller et al has already

combined the Zeller disclosure with the SQL-92 document. Therefore, a motivation and

reason to combine is unnecessary.

For these reasons, the rejection under 35 USC § 103(a) of claims 1 – 20 is

withdrawn.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims **1, 3 – 8, 10 – 15 and 17 – 20** are rejected under 35 U.S.C. 103(a) as

being unpatentable over Zeller et al (US Patent 5,724,570, patented 3 March 1998) in

view of Kaneko et al (US Patent 6,480,833, patented 12 November 2002).

8.   In regard to **claim 1**, Zeller et al teaches replacing each of the two or more

tokens of the SQL template to form a converted SQL template (*the SQL query is*

converted by a normalizer, see col 7, lines 1 – 17; also see Fig 3A and 3B as well as col

11, lines 21 – 30; the nested queries are replaced) and storing the data type of the

converted SQL template with the SQL template (*the data type and the can be stored in*

memory or on hard disk F100, see col 7, lines 1 – 17).

However, Zeller et al does not teach the explicit use of a cast function. Kaneko

et al discusses overloading of casting function and determinations of datatypes of input

variables as well as the entire SQL statement. "Overloading a function" is a process by

which on determination of the number and datatype of variables in calling a function, a

particular function is selected to be executed. A determination of datatype must occur

in order for the correct function to be selected (*See Figures 9, 14 for selecting of*

appropriate function based on datatype). It would have been obvious to a person of

ordinary skill in the art to use the method of Zeller et al with the cast function of Kaneko

et al because the cast function allows for queries with non-homogeneous data types to

be operated on without data type errors.

9.   In regard to **claim 3**, Zeller et al further teaches forming a valid SQL statement

from the converted SQL template (*from an optimized query tree, equivalent SQL*

statement can be formed and executed by the executor module F110, see col 7, lines 1

– 17).

10.   In regard to **claim 4**, Zeller et al does not teach the explicit use of a cast function

to determine validity of SQL statement. However, as shown by SQL-92 (incorporated

by reference), validity of a query can be determined by the results of a cast function.

11.   In regard to **claim 5**, Zeller et al further teaches acquiring the data type of the

converted SQL statement comprises passing the valid SQL statement through an SQL

processor (*the data type is known as the query is acted on, such as BOOLEAN, see col*

8, lines 27 – 31; the query is acted on by the optimizer with is equivalent to a SQL

processor).

12.   In regard to **claim 6**, Zeller et al further teaches inquiring if a descendent of the

converted SQL template has been modified (*the optimizer and normalizer does*

operations based on rules which will transverse the tree and check for modifications, col

7, lines 1 – 17).

13.   In regard to **claim 7**, Zeller et al further teaches if the descendent of the

converted SQL template has been modified, re-evaluating an SQL template for the

descendent and cascading a modified data type up to ancestors of the converted SQL

template (*the optimizer and normalizer does operations based on rules which will*

transverse the tree and check for modifications, col 7, lines 1 – 17, data types are

moved up to the parent query as necessary for computation).

14.   In regard to **claim 8**, Zeller et al teaches replacing each of the two or more

tokens of the SQL template to form a converted SQL template (*the SQL query is*

converted by a normalizer, see col 7, lines 1 – 17; also see Fig 3A and 3B as well as col

11, lines 21 – 30; the nested queries are replaced) and storing the data type of the

converted SQL template with the SQL template (*the data type and the can be stored in*

memory or on hard disk F100, see col 7, lines 1 – 17).

        However, Zeller et al does not teach the explicit use of a cast function. Kaneko

et al discusses overloading of casting function and determinations of datatypes of input

variables as well as the entire SQL statement. "Overloading a function" is a process by

which on determination of the number and datatype of variables in calling a function, a

particular function is selected to be executed. A determination of datatype must occur

in order for the correct function to be selected (*See Figures 9, 14 for selecting of*

appropriate function based on datatype). It would have been obvious to a person of

ordinary skill in the art to use the method of Zeller et al with the cast function of Kaneko

et al because the cast function allows for queries with non-homogeneous data types to be operated on without data type errors.

15.   In regard to **claim 10**, Zeller et al further teaches forming a valid SQL statement from the converted SQL template (*from an optimized query tree, equivalent SQL statement can be formed and executed by the executor module F110, see col 7, lines 1 – 17*).

16.   In regard to **claim 11**, Zeller et al does not teach the explicit use of a cast function to determine validity of SQL statement. However, as shown by SQL-92 (incorporated by reference), validity of a query can be determined by the results of a cast function.

17.   In regard to **claim 12**, Zeller et al further teaches acquiring the data type of the converted SQL statement comprises passing the valid SQL statement through an SQL processor (*the data type is known as the query is acted on, such as BOOLEAN, see col 8, lines 27 – 31; the query is acted on by the optimizer with is equivalent to a SQL processor*).

18.   In regard to **claim 13**, Zeller et al further teaches inquiring if a descendent of the converted SQL template has been modified (*the optimizer and normalizer does operations based on rules which will transverse the tree and check for modifications, col 7, lines 1 – 17*).

19.   In regard to **claim 14**, Zeller et al further teaches if the descendent of the converted SQL template has been modified, re-evaluating an SQL template for the descendent and cascading a modified data type up to ancestors of the converted SQL

template (*the optimizer and normalizer does operations based on rules which will
transverse the tree and check for modifications, col 7, lines 1 – 17, data types are
moved up to the parent query as necessary for computation*).

20.   In regard to **claim 15**, Zeller et al teaches replacing each of the two or more
tokens of the SQL template to form a converted SQL template (*the SQL query is
converted by a normalizer, see col 7, lines 1 – 17; also see Fig 3A and 3B as well as col
11, lines 21 – 30; the nested queries are replaced*) and storing the data type of the
converted SQL template with the SQL template (*the data type and the can be stored in
memory or on hard disk F100, see col 7, lines 1 – 17*).

However, Zeller et al does not teach the explicit use of a cast function. Kaneko
et al discusses overloading of casting function and determinations of datatypes of input
variables as well as the entire SQL statement. "Overloading a function" is a process by
which on determination of the number and datatype of variables in calling a function, a
particular function is selected to be executed. A determination of datatype must occur
in order for the correct function to be selected (*See Figures 9, 14 for selecting of
appropriate function based on datatype*). It would have been obvious to a person of
ordinary skill in the art to use the method of Zeller et al with the cast function of Kaneko
et al because the cast function allows for queries with non-homogeneous data types to
be operated on without data type errors.

21.   In regard to **claim 17**, Zeller et al further teaches forming a valid SQL statement
from the converted SQL template (*from an optimized query tree, equivalent SQL*

statement can be formed and executed by the executor module F110, see col 7, lines 1

– 17).

22.   In regard to **claim 18**, Zeller et al does not teach the explicit use of a cast

function to determine validity of SQL statement. However, as shown by SQL-92

(incorporated by reference), validity of a query can be determined by the results of a

cast function.

23.   In regard to **claim 19**, Zeller et al further teaches acquiring the data type of the

converted SQL statement comprises passing the valid SQL statement through an SQL

processor (*the data type is known as the query is acted on, such as BOOLEAN, see col*

8, lines 27 – 31; the query is acted on by the optimizer with is equivalent to a SQL

processor).

24.   In regard to **claim 20**, Zeller et al further teaches if the descendent of the

converted SQL template has been modified, re-evaluating an SQL template for the

descendent and cascading a modified data type up to ancestors of the converted SQL

template (*the optimizer and normalizer does operations based on rules which will*

transverse the tree and check for modifications, col 7, lines 1 – 17, data types are

moved up to the parent query as necessary for computation).

Conclusion

25.   The Examiner requests, in response to this Office action, that support be shown for language added to any original claims on amendment and any new claims. That is, indicate support for newly added claim language by specifically pointing to page(s) and line no(s) in the specification and/or drawing figure(s). This will assist the Examiner in prosecuting the application.

26.   When responding to this Office action, Applicant is advised to clearly point out the patentable novelty which he or she thinks the claims present, in view of the state of the art disclosed by the references cited or the objections made. He or she must also show how the amendments avoid such references or objections See 37 CFR 1.111(c).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Garrett Smith whose telephone number is (571) 270-1764. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim T. Vo can be reached on (571) 272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

May 24, 2008   /GS/
                                                     Garrett Smith
                                                     Patent Examiner
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/Tim T. Vo/
Supervisory Patent Examiner, Art Unit 2168